

LISTING OF CLAIMS - AS ORIGINALLY FILED

1. Process for the automatic removal of bobbins from a winding station of a filament winding machine, comprising means (1) for holding and disengaging a full bobbin (2), a bobbin guide (3) guiding the filament to be wound during winding, a bar (7) for disengagement from the winding guide (3), a bobbin drive (4), heads (5) for gripping and holding a spool (6) and a device (8) for supplying the station with spools (6), characterized in that it consists essentially in providing, during each removal cycle, a relaxation of the tension of the supply filament, then restarting a new winding cycle after completion of the removal cycle.

2. Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is carried out during stopping of winding, during the phase of deceleration of the bobbin.

3. Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is carried out upon total stoppage of the bobbin.

4. Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected after total stopping of the bobbin.

5. Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected during stopping of winding, before disengagement of the full bobbin.

6. Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected during stopping of winding, during disengagement of the full bobbin.

7. Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected during stopping of winding, just after disengagement of the full bobbin.

8. Process according to any one of claims 3, 4, 6 and 7, characterized in that the relaxation of the tension of the supply filament is effected upstream of the winding station.

9. Process according to any one of claims 3 to 8, characterized in that the relaxation of the tension of the supply filament is effected, by driving the bobbin (2) in the reverse direction of its winding rotation, by means of the bobbin drive (4), which is actuated in the opposite direction, for a short period of time, by means of a mechanical, electrical, electronic or like reverser.

10. Process according to any one of claims 2 to 8, characterized in that the relaxation of the tension of the supply filament is effected by action on the path of the filament upstream of the winding guide (3), the assembly of the drive motors for winding, for the winding guide and for the pre-supply being stopped.

11. Process according to claim 10, characterized in that obtaining the relaxation is effected by action on the length of the path of the filament by provision of one or several

deflection cylinders along said path, these deflection cylinders being movable outside a rectilinear path.

12. Process according to claim 10, characterized in that obtaining the relaxation is effected by a relative displacement of the different deflection cylinders forming the pre-supply in the direction of shortening the path of the filament during stopping.

13. Process according to claim 9 or claim 12, characterized in that the different controls for reversing the operation of the bobbin drive (4) or the movement of the different deflection cylinders is carried out automatically.

LISTING OF CLAIMS - AS AMENDED BY AMENDMENT OF JULY 8, 2003

1. (original) Process for the automatic removal of bobbins from a winding station of a filament winding machine, comprising means (1) for holding and disengaging a full bobbin (2), a bobbin guide (3) guiding the filament to be wound during winding, a bar (7) for disengagement from the winding guide (3), a bobbin drive (4), heads (5) for gripping and holding a spool (6) and a device (8) for supplying the station with spools (6), characterized in that it consists essentially in providing, during each removal cycle, a relaxation of the tension of the supply filament, then restarting a new winding cycle after completion of the removal cycle.

2. (original) Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is carried out during stopping of winding, during the phase of deceleration of the bobbin.

3. (original) Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is carried out upon total stoppage of the bobbin.

4. (original) Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected after total stopping of the bobbin.

5. (original) Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected during stopping of winding, before disengagement of the full bobbin.

6. (original) Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected during stopping of winding, during disengagement of the full bobbin.

7. (original) Process according to claim 1, characterized in that the relaxation of the tension of the supply filament is effected during stopping of winding, just after disengagement of the full bobbin.

8. (amended) Process according to ~~any one of claims 3, 4, 6 and 7,~~ claim 3 characterized in that the relaxation of the tension of the supply filament is effected upstream of the winding station.

9. (amended) Process according to ~~any one of claims 3 to 8,~~ claim 3, characterized in that the relaxation of the tension of the supply filament is effected, by driving the bobbin (2) in the reverse direction of its winding rotation, by means of the bobbin drive (4), which is actuated in the opposite direction, for a short period of time, by means of a mechanical, electrical, electronic or like reverser.

10. (amended) Process according to ~~any one of claims 2 to 8,~~ claim 2, characterized in that the relaxation of the tension of the supply filament is effected by action on the path of the filament upstream of the winding guide (3), the assembly of the drive motors for winding, for the winding guide and for the pre-supply being stopped.

11. (original) Process according to claim 10, characterized in that obtaining the relaxation is effected by action on the length of the path of the filament by provision of one or several

deflection cylinders along said path, these deflection cylinders being movable outside a rectilinear path.

12. (original) Process according to claim 10, characterized in that obtaining the relaxation is effected by a relative displacement of the different deflection cylinders forming the pre-supply in the direction of shortening the path of the filament during stopping.

13. (amended) Process according to claim 9 ~~or claim 12~~, characterized in that the different controls for reversing the operation of the bobbin drive (4) or the movement of the different deflection cylinders is carried out automatically.

14. (new) Process according to claim 12, characterized in that the different controls for reversing the operation of the package drive (4) or the movement of the different deflection cylinders is carried out automatically.